PB82-127408

Carcinogenic Activity Associated with Asphaltic and Coal Tar Coatings Used in Potable Water Mains

(U.S.) Health Effects Research Lab.
Research Triangle Park, NC

Aug 81

U.S. Department of Commerce
National Technical Information Service
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TECHNICAL REPORT DATA
(Please read Instructions on the reverse before completing)

1. REPORT NO.	2.	3. RE
EPA-600/J-81-315	Journal Article	PB82-127408

4. TITLE AND SUBTITLE	5. REPORT DATE
Carcinogenic Activity Associated with Asphaltic and Coal Tar Coatings Used in Potable Water Mains.	August 1981
	6. PERFORMING ORGANIZATION CODE 308048

7. AUTHOR(S)	8. PERFORMING ORGANIZATION REPORT NO.
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9. PERFORMING ORGANIZATION NAME AND ADDRESS	10. PROGRAM ELEMENT NO.
U.S. EPA Health Effects Research Laboratory 26 W. St. Clair St. Cincinnati, OH 45268	11. CONTRACT/GRANT NO.

12. SPONSORING AGENCY NAME AND ADDRESS	13. TYPE OF REPORT AND PERIOD COVERED
Same	14. SPONSORING AGENCY CODE

15. SUPPLEMENTARY NOTES

Published in: Pharmacologist 23:335(1981)

16. ABSTRACT

Carcinogenic response was assessed with 0.2 ml of 4 asphaltic and 3 coal tar based paints applied topically in acetone to the shaved back of female SENCAR mice. Two weeks later a promotion schedule involving application of 1 ug of TPA in acetine 3 x weekly to the back was instituted. Results after 12 weeks showed significantly increased numbers of papillomas with all products. In general coal tar products gave rise to 20 to 80 times the tumor response observed with asphaltic based products.

17. KEY WORDS AND DOCUMENT ANALYSIS

a. DESCRIPTORS	b. IDENTIFIERS/OPEN ENDED TERMS	c. COSATI Field/Group

18. DISTRIBUTION STATEMENT	19. SECURITY CLASS *(This Report)*	21. NO. OF PAGES
Release to Public	Unclassified	
	20. SECURITY CLASS *(This page)*	22. PRICE
	Unclassified	

EPA Form 2220-1 (Rev. 4-77) PREVIOUS EDITION IS OBSOLETE

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NATIONAL TECHNICAL
INFORMATION SERVICE
U.S. DEPARTMENT OF COMMERCE
SPRINGFIELD, VA 22161

EPA-600/J-81-315
Journal Article

Pharmacologist 23:335 (1981)

Carcinogenic Activity Associated with Asphaltic and Coal Tar Coatings Used in Potable Water Mains. R. J. Bull, M. Robinson*, D. Cmehil*, F. Kopfler* Health Effects Research Laboratory, USEPA, Cincinnati, OH 45268.

A wide variety of materials are employed as coatings for water mains and pipes to prevent corrosion. Much of the justification for their use is historical and preceded modern concerns over human contact with chemicals that produce cancer. One group of these coatings includes coal tar and/or asphalt as major constituents. To assess the carcinogenic response 0.2 ml of 4 asphaltic and 3 coal tar based paints were applied topically in acetone to the shaved back of female SENCAR mice. Two weeks following this application a promotion schedule involving application of 1 ug of TPA in acetine 3 x weekly to the back was instituted. Results after 12 weeks show significantly increased numbers of papillomas with all products ranging from 0.40 to 19 papillomas/mouse (40 animals/group). In general coal tar products gave rise to 20 to 80 times the tumor response observed with asphaltic based products. Dose-response studies and chemical analyses of these products have been initiated to determine if differences in response can be accounted for simply by PAH content.